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10/754,392	01/09/2004	Robert Glenn Biskeborn	SJ0920030016US1	7827

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EXAMINER	
NEGRON, DANIELL L	

ART UNIT	PAPER NUMBER
2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/754,392	BISKEBORN, ROBERT GLENN	
	Examiner	Art Unit	
	Daniell L. Negrón	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,21-26 and 28-30* is/are pending in the application.

4a) Of the above claim(s) *8,9,29 and 30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10,21-26 and 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on March 17, 2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Claim Objections

2. Claim 29 is objected to because of the following informalities: The status identifier of claim 29 reads "currently amended", which is incorrect. In the previous Office action mailed December 20, 2007, claim 29 was withdrawn from consideration as a result of the restriction requirement issued on June 4, 2007. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Smith U.S. Patent Application Publication No. 2002/0197936.

Regarding claim 1, the rejection applied to claim 1 in the previous Office action mailed December 20, 2007 is herein repeated for the same reasons (see Response to Arguments).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith U.S. Patent Application Publication No. 2002/0197936 in view of Dakroub et al U.S. Patent No. 7,113,354.

Regarding claims 2 and 4-7, the rejections applied to claims 1, 11, and 20 in the previous Office action mailed December 20, 2007 are herein repeated for the same reasons (see Response to Arguments).

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith U.S. Patent Application Publication No. 2002/0197936 in view of Dakroub et al U.S. Patent No. 7,113,354 and further in view of Abraham et al U.S. Patent No. 6,239,936.

Regarding claim 3, the rejection applied to claim 3 in the previous Office action mailed December 20, 2007 is herein repeated for the same reasons (see Response to Arguments).

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith U.S. Patent Application Publication No. 2002/0197936 in view of Muranushi et al U.S. Patent No. 5,153,785.

Regarding claim 3, the rejection applied to claim 3 in the previous Office action mailed December 20, 2007 is herein repeated for the same reasons (see Response to Arguments).

9. Claims 21, 22, and 24-26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dakroub et al U.S. Patent No. 7,113,354 in view of Smith U.S. Patent Application Publication No. 2002/0197936.

Regarding claim 21, Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head comprising sensing media noise on the recording medium (column 5, 10-15) and calculating a magnetic spacing change value (i.e., distinct media landing noise signature) from the media noise (column 5, lines 15-18), but fail to explicitly disclose adjusting a magnetic spacing change value as necessary to reflect transducing head wear.

Smith however, discloses a method comprising adjusting magnetic spacing between a magnetic recording medium and a transducing head for the purpose of burnishing a head (paragraphs 24 and 28). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method disclosed by Dakroub et al with the teachings of burnishing a transducer head as shown by Smith in order to minimize fly height while increasing data density.

Regarding claim 22, Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head wherein the media noise (i.e., readback signal from a nonrecorded region of the medium) is generated by forming a substantially random pattern of magnetic domains on the recording medium using one of an A.C. erasure technique, a D.C. erasure technique, or a bulk erasure technique (column 5, lines 4-9). It is considered inherent that media noise is generated from one of an A.C. erasure technique, a D.C. erasure technique, or a bulk erasure technique since a nonrecorded region of a conventional magnetic disk is subject to such techniques during manufacture.

Regarding claims 24-26, Dakroub et al disclose a method for monitoring fly height between a magnetic recording medium and a transducing head comprising all the limitations of

claim 21 as discussed above, but fail to show the details of the steps for measuring spacing change and detection of media noise. However, it is considered that using a Fast Fourier Transform conversion process for obtaining a signal frequency, using a spectrum analyzing process, and analyzing frequency components of a signal are well known techniques used for detecting spacing change. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made since one with ordinary skill could have pursued the known options of using said well known techniques for detecting a spacing change with reasonable expectation of success.

In response to the previous Office action mailed December 20, 2007, Applicant requested appropriate prior art to support Examiner's assertion of the well-known techniques mentioned above. In response, Examiner points to Okamura U.S. Patent No. 5,831,781 in which it is evidenced that fly height changes are well-known to be determined through spectrum analysis (column 2, lines 27-35). Furthermore, it is documented by Kijesky et al U.S. Patent No. 4,408,284 that use of a Fast Fourier Transform is a common technique used in spectrum analyzers (column 2, lines 55-62). Finally, Rittenbach U.S. Patent No. 3,398,364 sets forth a spectrum analyzer comprising means for comparing a plurality of frequency components of a reference signal.

Regarding claim 28, Dakroub et al as modified by Smith disclose a method wherein transducing head wear is determined by measuring transducing head signal amplitude after accounting for changes in amplitude due to conditions other than head wear (Smith, paragraph 26).

10. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dakroub et al U.S. Patent No. 7,113,354 as modified by Smith U.S. Patent Application Publication No. 2002/0197936 and further in view of Abraham et al U.S. Patent No. 6,239,936.

Regarding claim 23, Dakroub et al as modified by Smith disclose a method for monitoring fly height between a magnetic recording medium and a transducing head, but fail to explicitly show wherein the media noise is processed so as to be substantially free of electronic power spectra noise generated by read channel circuitry associated with the transducing head.

Abraham et al however, disclose a method for monitoring fly height comprising filtering electronic noise from a spacing signal for the purpose of obtaining an improved spacing signal (column 10, lines 35-42). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method for monitoring fly height disclosed by Dakroub et al as modified by Smith with the teachings of filtering electronic noise from a spacing signal of Abraham et al in order to obtain a noise-free, improved spacing signal.

Response to Arguments

11. Applicant's arguments with regards to claims 1-7, and 10 filed March 17, 2008 have been fully considered but they are not persuasive. On pages 10-12, Applicant argues that Smith fails to explicitly disclose or suggest adjusting the magnetic spacing change value as necessary to reflect transducing hear wear. However, Examiner respectfully disagrees since at least in paragraphs 26 and 28 Smith discloses making an initial magnetic spacing measurement in step 84 and then another spacing measurement is made in step 88, which is considered to establish a magnetic spacing change as claimed. The magnetic spacing change is then adjusted (i.e.,

evaluated) to reflect a predetermined wear level (see paragraph 28). Therefore it is considered that Smith discloses the Applicant's invention as set forth in claim 1.

12. Applicant's arguments with respect to claims 21-26 and 28 have been considered but are moot in view of the new grounds of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is (571) 272-7559. The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit 2627

/D. L. N./
Examiner, Art Unit 2627
July 20, 2008